HL7 EHR TC

Electronic Health Record-System Functional Model, Release 1 February 2007

Chapter Four: Supportive Functions

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Chapter 4: Supportive EHR-S Functions

Supportive EHR-S functions are the subset of EHR-S functions that assist with the administrative and financial requirements associated with the delivery of healthcare. Supportive EHR-S also provide input to systems that perform medical research, promote public health, and seek to improve the quality of healthcare delivered.

1 Example

For example, during the encounter, Supportive EHR-S functions will electronically query local immunization registries (to insure that the child is currently registered), and will determine the child's immunization status. After treatment, Supportive EHR-S functions will report any immunization to an immunization registry and will provide any encounter data required by financial and administrative systems.

2 Actors

The Support Staff are the principal users of these functions but, under certain circumstances, the Healthcare Providers might be expected to perform certain administrative functions.

3 Functional Outline - Supportive

Sup	S.1	Clinical Support
pport	S.2	Measurement, Analysis, Research and Reports
ive	S.3	Administrative and Financial

ID#	Туре	Name	Statement/Description	See Also	Contormance Criteria	Row #
S.1	Н	Clinical Support			Authentication).	1
					Authorization).	2
					Access Control).	3
S.1.1	F	Registry Notification	Statement: Enable the automated transfer of formatted demographic and clinical information to and from local disease specific registries (and other notifiable registries) for patient monitoring	IN.2.4, IN.4.1, IN.4.2, IN.5.1,	demographic and clinical information to local disease specific registries (and other notifiable registries).	4
			and subsequent epidemiological analysis. Description: The user can export personal health information to disease specific registries, other notifiable	gical analysis. export to disease ifiable IN.5.2, IN.5.4 2. The system MAY provide the ability to auto retrieval of formatted demographic and clin from local disease specific registries (and o registries).	retrieval of formatted demographic and clinical information from local disease specific registries (and other notifiable	5
			registries such as immunization registries, through standard data transfer protocols or messages. The user can update and configure communication for new registries.		The system SHOULD provide the ability to add, change, or remove access to registries.	6
S.1.2	F	Support or receive, and share needed information on potential donors and recipients. Description: The user is able to capture or receive information on potential donors and recipients (for products such as blood, organs, eggs, sperm, or stem	or receive, and share needed information on potential donors and recipients. Description: The user is able to capture or receive information on potential donors and recipients (for products such as blood, organs, eggs, sperm, or stem cells). The user can make this information available to internal and external donor	IN.1.7 IN.2.4	The system MAY provide the ability to document demographic and clinical information needed for the donation.	7
				or receive information on potential donors		The system MAY receive demographic and clinical information about potential donors.
					The system MAY receive demographic and clinical information about the donation.	9
					The system MAY share documented demographic and clinical information about potential donors with appropriate outside parties.	10
					The system MAY share documented demographic and clinical information about the donation with appropriate outside parties.	11
S.1.3	Н	Provider Information	Statement: Maintain, or provide access to, current provider information.	IN.1.3 IN.4		12
S.1.3.1	F	Provider Access Levels	Provider Access Levels Statement: Provide a current registry or directory of practitioners that contains	IN.2.3	The system SHOULD provide a registry or directory of all personnel who currently use or access the system.	13
			data needed to determine levels of access required by the system.	IN.3		14

ID#	Туре	Name	Statement/Description	See Also	Conformance Criteria	Row #
			Description: Provider information may include any credentials, certifications, or any other information that may be used to		the practitioner's license number 3. The system SHOULD provide the ability to add, update,	15
			verify that a practitioner is permitted to use or access-authorized data.		 and inactivate entries in the directory so that it is current. 4. The system SHOULD contain, in the directory, the information necessary to determine levels of access required by the system security functionality. 	16
					5. The system MAY provide a directory of clinical personnel external to the organization that are not users of the system to facilitate documentation communication and information exchange.	17
S.1.3.2	F Provider's Location Within Facility Statement: Provide provider location or contact information on a facility's premises. Description: The identification of provider's location within a facility may		The system SHOULD provide the ability to input or create information on provider location or contact information on a facility's premises.	18		
			facilitate the handling of critical care situations. This may include the location of on site practitioners by name or immediate required specialty. A real-time tracking system may provide automatic update of such information.		The system SHOULD provide the ability to add, update, or inactivate information on provider's location or contact information on a facility's premises, so that it is current.	19
S.1.3.3	F	Provider's On Call Location	Statement: Provide provider location or contact information when on call. Description: The provider immediate	IN.2.3	The system SHOULD provide the ability to input or create information on provider location or contact information when on call.	20
			contact information. This may include on call practitioners on a facility's premises as well as on call contact information after scheduled working hours.		The system SHOULD provide the ability to add, update, or obsolete information on a provider's on call location or contact information, so that it is current.	21
S.1.3.4	F	Provider's Location(s) or Office(s)	Statement: Provide locations or contact information for the provider in order to direct patients or queries. Description: Providers may have multiple locations or offices where they	IN.2.3 IN.3	The system SHOULD contain information necessary to identify primary and secondary practice locations or offices of providers to support communication and access.	22
			practice. The system should maintain information on the primary location, any secondary locations, as well as the scheduled hours at each location. Information maintained may include web sites, maps, office locations, etc.		The system SHOULD provide the ability to add, update and obsolete information on the provider's primary and secondary practice locations or offices.	23

ID#	Туре	Name	Statement/Description	See Also	Contormanco Critoria	low #	
S.1.3.5	F	Team/Group of Providers Registry or Directory	Statement: Provide access to a current directory, registry or repository of information on Teams or Groups of providers in accordance with relevant laws, regulations, and organization or	IN.2.3	The system SHOULD provide the ability to access a current directory, registry or repository of Teams or Groups of providers in accordance with relevant laws, regulations, and organization or internal requirements.	24	
			internal requirements. Description : An organization may assign caregivers to teams that need to be registered as such. In another scenario, an organization might contract with a group of providers. The group would be		The system SHOULD conform to IN.3 (Registry and Directory Services), Conformance Criteria # 13 (The system MAY provide the ability to use registries or directories to identify healthcare resources and devices for resource management purposes).	25	
			listed by the group name or individually or both. A caregiver might be part of more than 1 team or group. All of these factors need to be supported. Information includes, but is not limited to; full name, address or physical location, and a 24x7 telecommunications address (e.g. phone or pager access number).		3. The system SHOULD conform to S.3.4 (Manage Practitioner/Patient Relationships), Conformance Criteria #2 (The system SHALL provide the ability to specify the role of each provider associated with a patient such as encounter provider, primary care provider, attending, resident, or consultant).	26	
S.1.3.6	F	provi Desc empl of pa and of A call for, z pane the of Informincture new	Provider Caseload/Panel Statement: Provide access to a provider's caseload or panel information. Description: An organization might employ the concept of caseload or panel of patients to facilitate continuity of care and distribution of work. A caregiver may have, or be accountable for, zero to multiple defined caseloads or panels of members/patient/clients within the organization.	provider's caseload or panel information. Description : An organization might employ the concept of caseload or panel of patients to facilitate continuity of care DC.1.7. DC.3.1.	DC.1.7.2.4 DC.3.1.1 DC.3.1.3 IN.2.3	The system SHALL provide the ability to access a provider's caseload or panel information. 2	27
				IN.2.4	The system SHALL provide the ability to add, update, and remove access to panel information such as status.	28	
			Information about the caseload or panel includes such things as whether or not a new member/patient/client can be added. A member/patient may be provided access to a listing of caregivers with open caseloads or panels to select a provider.		The system SHOULD conform to function S.3.4 (Manage Practitioner/Patient Relationships). 29 21 21 21 21 21 21 21 21 21	29	
S.1.3.7	F	Provider Registry or Directory	Statement: Provide access to a current directory, registry or repository of provider information in accordance with relevant laws, regulations, and organization or	IN.1.3 IN.2.1	The system SHOULD conform to IN.3 (Registry and Directory Services), Conformance Criteria #7 (The system SHOULD provide the ability to use registries or directories to uniquely identify providers for the provision of care).	30	

ID#	Туре	Name	Statement/Description	See Also	Conformance Criteria	Row #
			internal requirements. Description : A system maintains or has access to provider information needed in the provision of care. This is typically a directory, registry or repository.	IN.3	The system SHALL contain provider information (such as full name, specialty, address and contact information), in accordance with scope of practice, organizational policy and jurisdictional law.	31
			Information includes, but is not limited to; full name, specialty, credentials, address or physical location, and a 24x7 telecommunications address (e.g. phone		The system SHALL provide the ability to add, update, and remove access to entries in the registry or directory so that it is current.	32
			or pager access number). Views of the information are tailored to the user's security level and access need. For example, a nursing supervisor may		The system MAY provide a directory of clinical personnel external to the organization that are not users of the system to facilitate documentation.	33
			need access to a provider's home phone. A member/patient wishing to select a primary care provider has a narrower view that would not include personal access information.		5. The systems SHOULD provide the ability to restrict the view of selected elements of the registry or directory information, subject to the user's security level and access needs.	34
S.1.4	Н	Patient Directory	Statement: Provide a current directory of patient information in accordance with relevant privacy and other applicable laws, regulations, and conventions. Description: The patient directory may capture information including but not limited to, full name, address or physical location, alternate contact person, primary phone number, and relevant health status information. The view of this information may vary based on purpose. Several specific directory views are described in the following functions.	DC.1.1.1 IN.1.4		35
S.1.4.1	F	Patient Demographics	Statement: Support interactions with other systems, applications, and modules to enable the maintenance of updated demographic information in accordance with realm-specific recordkeeping requirements. Description: The minimum demographic	DC.1.3.3 S.1.4 S.3.7.3 IN.2.3	The system MAY add and update patient demographic information through interaction with other systems, applications and modules.	36

ID#	Туре	Name	Statement/Description	See Also	Conformance Criteria	Row #
			data set must include the data required by realm-specific laws governing health care transactions and reporting. For example, this may include data input of death status information, or may include support to identify multiple names, such as updating from Baby Girl Doe, to neonate's given name.		The system MAY accept and retrieve patient demographic information as required by realm specific laws governing health care transactions and reporting.	37
S.1.4.2	F	Patient's Location Within a Facility	Statement: Provide the patient's location information within a facility's premises. Description: This function is intended to support maintaining and/or providing access to information on the patient's location during an episode of care. This function can be as simple as displaying the assigned bed for a patient (i.e. Adam		IF the patient has an assigned location, THEN the system SHALL provide the ability to identify and display/view the patient's assigned location.	38
			W2-Reb 214). It can also be a function that supports real-time information on the patient location as they receive ancillary services in other parts of a facility (physical therapy or diagnostic imaging). Note: For standard reports like an ER Log		The system SHOULD support consents as they apply to the release of patient location information according to scope of practice, organization policy, or jurisdictional laws.	39
			or Census, see the Standard reports S.2.2. The system should support viewing a patient's specific location in terms that may include campus, building, wing, unit, room, bed.		The system MAY provide the ability to identify the patient's current, real-time location, unambiguously, within a facility.	40
			The system should support jurisdictional laws related to patient consent on disclosure. The patient location information should also be available when the provider is not in the patient record. As such, the systems may need to provide a query		The system MAY provide the ability to query patient location information.	41

ID#	Туре	Name	Statement/Description	See Also	Conformance Criteria Ro
			feature on patient location information. The system may support the identification of the patient by alternate identifying names.		The system MAY provide the ability to query patient location by alternate identifying names. 42
S.1.4.3	F	Patient's Residence for the Provision and Administration of Services	Statement: Provide the patient's residence information for the provision and administration of services to the patient, patient transport, and as required for public health reporting	DC 1.1.2	The system SHOULD provide the ability to identify the patient's primary residence. 43
			for public health reporting. Description: This function is intended to support the provision of services to patients at their place of residence. Examples include but are not limited to the following:		The system MAY provide the ability to identify the patient's secondary or alternate residence. 44
			 Visiting nurse may be providing care to a new mother and baby at their place of residence. A patient with a mobility problem may require transport to and from a clinic appointment. 		The system MAY provide the ability to enter and update patient information related to the provision of service. 45
					The system SHOULD provide the ability to enter and update patient information related to transport, such as, mobility status, special needs and facility access (stairs, elevator, wheelchair access).
			Support identification of multiple residences for a patient like a child with multiple guardians (divorced parents with joint custody) or adults with Winter/Summer residences.		The system SHOULD provide the ability to enter and update patient residence information as necessary for public health reporting. 47
S.1.4.4	F	Patient Bed Assignment	Statement: Support interactions with other systems, applications, and modules to ensure that the patient's bed assignments within the facility optimize care and minimize risks e.g. of exposure to contagious patients.	S.1.7 IN.6	The system SHOULD support interactions as required to support patient bed assignment internal or external to the system. 48

ID#	Туре	Name	Statement/Description	See Also	Conformance Criteria #
			Description: Access to a list of available beds is important to safely manage the care of patients whose bed requirements may change based on change in condition or risk factors. For example, a patient may need a room with special equipment or to be close to the nursing station or to be in a private room.		The system MAY provide patient information to an external system to facilitate bed assignment that optimizes care and minimizes risk. 49
S.1.5	F	De-Identified Data Request Management	Statement: Provide patient data in a manner that meets local requirements for de-identification. Description: When an internal or external party requests patient data and that party requests de-identified data (or is not entitled to identified patient information, either by law or custom), the user can export the data in a fashion that meets requirements for de-identification in that locale or realm.	IN.1.6 IN.1.7 IN.1.8 IN.2.2 IN.3 IN.4.3 IN.5.1 IN.5.4 IN.5.4	The system SHALL conform to IN.1.9 (Patient Privacy and Confidentiality) and provide de-identified views of data in accordance with scope of practice, organizational policy and jurisdictional law. 50
			the system. This record could be implemented in any way that would allow the who, what, why and when of a request and export to be recoverable for review. A random re-identification key may be added to the data, to support re-identification for the purpose of alerting providers of potential patient safety issues. For example, if it is discovered that a patient is a risk for a major cardiac event, the provider could be notified of this risk, allowing the provider to identify the patient from the random key.		The system SHOULD conform to IN.2.4 (Extraction of Health Record Information), Conformance Criteria #3 (The system SHOULD provide the ability to de-identify extracted information). S1
S.1.6	F	Scheduling	Statement: Support interactions with other systems, applications, and modules	DC.3.1 DC.3.2.1	The system MAY provide the ability to access scheduling features, either internal or external to the system, for potions one recovered.
			to provide the necessary data to a scheduling system for optimal efficiency in the scheduling of patient care, for either the patient or a resource/device.	IN.2.3	patient care resources. 2. The system MAY provide the ability to access scheduling features, either internal or external to the system, for patient care devices.

ID#	Туре	Name	Statement/Description	See Also	Conformance Criteria #
			Description: The system may support user access to scheduling systems as required. Relevant clinical or	IN.4.1 IN.7	The system MAY incorporate relevant clinical or demographic information in the scheduling process. demographic information in the scheduling process.
			demographic information required in the scheduling process could be linked to the task.		The system MAY pass relevant clinical or demographic information to support efficient scheduling with other system.
S.1.7	F	Healthcare Resource Availability	Statement: Support the collection and distribution of local healthcare resource information, through interactions with other systems, applications, and modules, to enable planning and response to extraordinary events such as local or national emergencies. Description: In times of identified local	S.1.4.4 IN.1.6 IN.5.1 IN.5.4	The system MAY collect information on healthcare resource availability through interactions with other systems, applications, and modules. 56
			or national emergencies and upon request from authorized bodies, provide current status of healthcare resources including, but not limited to, available beds, providers, support personnel, ancillary care areas and devices, operating theaters, medical supplies, vaccines, and pharmaceuticals. The intent is to enable the authorized body to distribute or re-distribute either resources or patient load to maximize efficient healthcare delivery. In addition, these functions may also be used for internal assessment and planning purposes by facility administrators.		The system MAY provide the ability to access information on healthcare resource availability for internal assessment and planning purposes. Healthcare resources may include, but is not limited to available beds, providers, support personnel, ancillary care areas and devices, operating theaters, medical supplies, vaccines, and pharmaceuticals. 57
					The system MAY provide the ability to export information on healthcare resource availability to authorized external parties. 58
S.1.8	F	Information View	Statement: Support user-defined information views. Description: Views of the information can be tailored for or by the user (or department or "job classification") for their	IN.2.4 IN.2.5.1 IN.2.5.2	The system MAY provide authorized administrators the ability to tailor the presentation of information for preferences of the user, department/area or user type.
			presentation preferences, within local or facility established rules. For example, a nursing supervisor may elect or prefer to see summary data on all patients as the default view.		The system MAY provide authorized users the ability to tailor their presentation of information for their preferences.
S.2	Н	Measurement, Analysis, Research and Reports			The system SHALL conform to function IN.1.1 (Entity Authentication). The system SHALL conform to function IN.1.2 (Entity 62).
		Reports			Authorization).

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ID#	Туре	Name	Statement/Description	See Also	Conformance Criteria	Row #
					The system SHALL conform to function IN.1.3 (Entity Access Control).	63
					The system SHALL conform to function IN.1.9 (Patient Privacy and Confidentiality).	64
					5. The system SHALL conform to function IN.2.4 (Extraction of Health Record Information).	65
S.2.1	Н	Measurement, Monitoring, and Analysis	Statement: Support measurement and monitoring of care for relevant purposes. Description:	DC.2.6.1		66
S.2.1.1	F	Outcome Measures and Analysis	Statement: Support the capture and subsequent export or retrieval of data	S.3.6.2	The system SHOULD provide the ability to export or retrieve data required to evaluate patient outcomes.	67
			necessary for the reporting on patient outcome of care by population, facility, provider or community. Description: Many regions require regular reporting on the healthcare	IN.4.3 IN.6	The system MAY provide data detailed by physician, facility, facility subsection, community or other selection criteria.	68
					3. The system SHOULD provide the ability to define outcome measures for specific patient diagnosis.	69
			provided to individuals and populations. The system needs to provide the report generating capability to easily create		The system SHOULD provide the ability to define outcome measures to meet various regional requirements.	70
			these reports or provide for the export of data to external report generating software. The system may also provide		The system SHOULD provide for the acceptance and retrieval of unique outcome data defined to meet regional requirements.	71
			the functionality to prompt for the collection of necessary information at the appropriate time in a patient encounter if		6. The system MAY provide the ability to define report formats for the export of data. This formatted data could be viewed, transmitted electronically or printed.	72
			such collection need can be properly defined in a supportive workflow. e.g. Requesting specific information for reporting of emergency services such as		7. The system MAY provide the ability to define prompts in the clinical care setting that would request information needed to comply with regional requirements when specific triggers are met.	73
			gun shot, suspected abuse, communicable diseases etc, or for the collection of additional research data for specific a specific diagnosis.		The system MAY export data or provide a limited query access to data through a secure data service.	74
S.2.1.2	F	Performance and Accountability Measures	Statement: Support the capture and subsequent export or retrieval of data necessary to provide quality, performance, and accountability	DC.2.6.3 DC.2.6.2 S.3.6	The system SHOULD provide the ability to export or retrieve data required to assess health care quality, performance and accountability.	75
			measurements which providers, facilities, delivery systems, and communities are held accountable. Description: Many regions require regular reporting on the healthcare	IN.5.4	The system SHOULD provide the ability to define multiple data sets required for performance and accountability measures.	76

ID#	Туре	Name	Statement/Description	See Also	Conformance Criteria Row #
			provided to individuals and populations. These reports may include measures related to process, outcomes, costs of care, may be used in 'pay for		The system MAY provide the data export in a report format that could be displayed, transmitted electronically or printed. 77
			performance' monitoring and adherence to best practice guidelines. The system needs to provide the report generating capability to easily create these reports or provide for the export of data to external report generating software.		The system MAY export data or provide a limited query access to data through a secure data service. 78
S.2.2	Н	Report Generation	Statement: Support the export of data or access to data necessary for report generation and ad hoc analysis. Description: Providers and administrators need access to data in the EHR-S for the generation of both	DC.2.6.3 S.1.5 S.3.6	The system SHALL conform to function IN.2.2 (Auditable Records) in accordance with scope of practice, organizational policy and jurisdictional law.
			standard and ad hoc reports. These reports may be needed for clinical, administrative, and financial decision-making, as well as for patient use. Reports may be based on structured data and/or unstructured text from the patient's health record.		The system SHALL conform to function IN.2.1 (Data Retention, Availability and Destruction). 80
S.2.2.1	F	F Health Record Output	Health Record Output Statement: Support the definition of the formal health record, a partial record for referral purposes, or sets of records for other necessary disclosure purposes. Description: Provide hardcopy and electronic output that fully chronicles the healthcare process, supports selection of specific sections of the health record, and allows healthcare organizations to define the report and/or documents that will comprise the formal health record for disclosure purposes. A mechanism	DC.1.1.4 DC.1.4	The system SHALL provide the ability to generate reports consisting of all and part of an individual patient's record. 81
				IN.1.2 IN.2.5.1 IN.2.5.2 IN.4.1 IN.4.3 IN.5.1 IN.5.4	The system SHOULD provide the ability to define the records or reports that are considered the formal health record for disclosure purposes. S2
					The system SHOULD provide the ability to generate reports in both chronological and specified record elements order.
					4. The system SHOULD provide the ability to create hardcopy and electronic report summary information (procedures, medications, labs, immunizations, allergies, vital signs).
			may include defined reporting groups (i.e. print sets). For example: Print Set A = Patient Demographics, History &	IN.6	5. The system MAY provide the ability to specify or define reporting groups (i.e. print sets) for specific types of disclosure or information sharing.
			Physical, Consultation Reports, and Discharge Summaries. Print Set B = all		The system SHOULD provide the ability to include patient identifying information on each page of reports generated.

ID#	Туре	Name	Statement/Description	See Also	Conformance Criteria	Row #
			information created by one caregiver. Print Set C = all information from a specified encounter. An auditable record of these requests and associated exports may be maintained by the system. This record could be implemented in any way that would allow the who, what, why and when of a request and export to be recoverable for review. The system has the capability of providing a report or accounting of disclosures by patient that meets in accordance with scope of practice, organizational policy and jurisdictional law.		The system SHOULD provide the ability to customize reports to match mandated formats.	87
S.2.2.2	F	F Standard Report Generation	Statement: Provide report generation features using tools internal or external to the system, for the generation of standard reports. Description: Providers and administrators need access to data in the EHR-S for clinical, administrative,	IN.1.9 IN.2.5.1 IN.2.5.2 IN.4.1 IN.4.3	The system SHOULD provide the ability to generate reports of structured clinical and administrative data using either internal or external reporting tools. The system MAY provide the ability to include information	88
					extracted from unstructured clinical and administrative data in the report generation process, using internal or external tools.	
			financial decision-making, audit trail and metadata reporting, as well as to create reports for patients. Many systems may	114.1.0	The system SHOULD provide the ability to export reports generated.	90
			use internal or external reporting tools to accomplish this (such as Crystal Report). Reports may be based on structured data		4. The system SHOULD provide the ability to specify report parameters, based on patient demographic and/or clinical data, which would allow sorting and/or filtering of the data.	91
			and/or unstructured text from the patient's health record.		The system (or an external application, using data from the system) MAY provide the ability to save report parameters for generating subsequent reports.	92
			Users need to be able to sort and/or filter reports. For example, the user may wish to view only the diabetic patients on a report listing patients and diagnoses.		The system (or an external application, using data from the system) MAY provide the ability to modify one or more parameters of a saved report specification when generating a report using that specification.	93
S.2.2.3	F	Ad Hoc Query and Report Generation	Statement: Provide support for ad hoc query and report generation using tools internal or external to the system. Description: Providers and	IN.2.5.1 IN.2.5.2	The system SHOULD provide the ability to generate ad hoc query and reports of structured clinical and administrative data through either internal or external reporting tools.	94
			administrators need to respond quickly to new requirements for data measurement and analysis. This may be as a result of new regulatory requirements or internal		The system MAY provide the ability to include information extracted from unstructured clinical and administrative data in the report generation process, using internal or external tools.	95

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S.3	Н	Administrative and Financial	requirements. This requires that users be able to define their own query parameters and retain them. The data may be found in both structured and unstructured data. Providers and administrators also need to query for the absence of specific clinical or administrative data. For example, the Quality Control department may be reviewing whether or not the protocol for management of Diabetes Mellitus is being followed. If the protocol calls for fasting blood sugars every 3 months at minimum, the investigator might need to run an across-patient query locating patients with diabetes who do not show an FBS result within the last 3 months.	IN.1.9,	3. The system SHOULD provide the ability to export reports generated. 4. The system SHOULD provide the ability to specify report parameters, based on patient demographic and/or clinical data, which would allow sorting and/or filtering of the data. 5. The system MAY provide the ability to save report parameters for generating subsequent reports. 6. The system MAY provide the ability to modify one or more parameters of a saved report specification when generating a report using that specification. 7. The system MAY provide the ability to produce reports, using internal or external reporting tools, based on the absence of a clinical data element (e.g., a lab test has not been performed in the last year). 1. The system SHALL conform to function IN.1.1 (Entity Authentication).
				IN.2.4	The system SHALL conform to function IN.1.2 (Entity Authorization). The system SHALL conform to function IN.1.3 (Entity 103).
S.3.1	Н	Encounter/Episode of Care Management	Statement: Support the definition of Manage and document the health care needed and delivered during an encounter/episode of care. Description: Using data standards and technologies that support interoperability, encounter management promotes patient-centered/oriented care and enables real time, immediate point of service, point of care by facilitating efficient work flow and operations performance to ensure the integrity of: (1) the health record, (2) public health, financial and administrative reporting, and (3) the healthcare delivery process This support is necessary for direct care functionality that relies on providing user		Access Control).

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			interaction and workflows, which are configured according to clinical protocols and business rules based on encounter specific values such as care setting, encounter type (inpatient, outpatient, home health, etc.), provider type, patient's EHR, health status, demographics, and the initial purpose of the encounter.			
S.3.1.1	F	Specialized Views	Statement: Present specialized views based on the encounter-specific values, clinical protocols and business rules. Description: The system user is presented with a presentation view and system interaction appropriate to the	DC.2.2.1.2 S.1.3.7	The system SHOULD provide the ability to define presentation filters that are specific to the types of encounter. These specifics may include care provider specialty, location of encounter, date of encounter, associated diagnosis.	105
	rules. This "user view" may be configurable by the user or systechnicians. As an example, a home health care worker using	values, clinical protocols and business rules. This "user view" may be configurable by the user or system technicians. As an example, a mobile home health care worker using wireless laptop at the patient's home would be	em nobile vireless	The system MAY provide the ability to define presentation filters that are specific to the patent demographics.	106	
			presented with a home health care specific workflow synchronized to the current patient's care plan and tailored to support the interventions appropriate for this patient, including chronic disease management protocols.		The system SHOULD provide the ability to tailor a "user view".	107
S.3.1.2	F	Encounter Specific Functionality	nter Specific Statement: Provide assistance in	DC.3.1.1 IN.4.2 IN.4.3	The system SHALL provide workflow support for data collection appropriate for care setting.	108
				IN.7	The system SHOULD provide the ability to create and modify data entry workflows.	109
			export, extraction, linkages and transformation. As an example, a pediatrician is presented with diagnostic and procedure codes specific to		The system SHOULD provide the ability to extract appropriate information from the patient record as necessary to document the patient encounter.	110

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			pediatrics. Business rules enable automatic collection of necessary data from the patient's health record and patient registry. As the provider enters data, workflow processes are triggered to		The system SHOULD provide a reduced set of diagnostic and procedure codes appropriate for the care setting.	111
		populate appropriate transactions and documents. For example, data entry might populate an eligibility verification transaction or query the immunization registry.		The system MAY initiate secondary reporting workflows as a result of information entered into the encounter.	112	
S.3.1.3	F	Automatic Generation of Administrative and Financial Data from Clinical Record	Statement: Provide patients clinical data to support administrative and financial reporting. Description: A user can generate a bill based on health record data. Maximizing the extent to which administrative and financial data can be derived or	S.3.2.2 IN.4.1 IN.4.2 IN.4.3	The system SHOULD provide the ability to define the data required for each external administrative and financial system.	113
	developed from clinical data will lessen provider reporting burdens and the time it takes to complete administrative and financial processes such as claim reimbursement. This may be implemented by mapping of clinical terminologies in use to administrative and financial terminologies.		The system SHOULD export appropriate data to administrative and financial systems.	114		
S.3.1.4	F	Support Remote Healthcare Services	Statement: Support remote health care services such as tele-health and remote device monitoring by integrating records and data collected by these means into	DC.1.1 DC.1.3.3 DC.1.7.2.1	The system SHOULD provide the ability to capture patient data from remote devices and integrate that data into the patient's record.	115
			the patient's record for care management, billing and public health reporting	DC.1.7.2.2		
			purposes. Description: Enables remote treatment	DC.1.7.3		
			of patients using monitoring devices, and two way communications between provider and patient or provider and	DC.3.2.1 DC.3.2.3		

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			provider. Promotes patient empowerment, self-determination and ability to maintain health status in the community. Promotes personal health, wellness and preventive care. For example, a diabetic pregnant Mom can self-monitor her condition from her home and use web TV to report to her provider. The same TV-internet connectivity allows her to get dietary and other health promoting information to assist her with managing her high-risk pregnancy.	DC.3.2.5 IN.1.4 IN.1.6 IN.1.7 IN.2.2 IN.2.3 IN.2.5.1 IN.2.5.2	2.	The system SHOULD provide authorized users two-way communication between local practitioner and remote patient, or local practitioner to remote practitioner.	116
S.3.1.5	F	Other Encounter and Episode of Care Support	Statement: Where not covered above, provide the means to manage and organize the documentation of the health care needed and delivered during an encounter/episode of care. Description: Using data standards and technologies that support interoperability,	DC.3.1 DC.3.2 IN.2.3		The system SHALL provide the ability to organize patient data by encounter.	117
			encounter management promotes patient- centered/oriented care and enables real time, immediate point of service, point of care by facilitating efficient work flow and operations performance to ensure the integrity of: (1) the health record, (2)		2.	The system SHOULD accept and append patient encounter data from external systems, such as diagnostic tests and reports.	118
			public health, financial and administrative reporting, and (3) the healthcare delivery process. This support is necessary for direct care functionality that relies on providing user interaction and workflows, which are configured according to clinical		3.	The system SHALL provide the ability to create encounter documentation by one or more of the following means: direct keyboard entry of text; structured data entry utilizing templates, forms, pick lists or macro substitution; dictation with subsequent transcription of voice to text, either manually or via voice recognition system.	119
			protocols and business rules based on encounter specific values such as care setting, encounter type (inpatient, outpatient, home health, etc.), provider type, patient's record, health status, demographics, and the initial purpose of the encounter.		4.	The system SHOULD provide the ability to define presentation filters that are specific to the types of encounter. These specifics may include care provider specialty, location of encounter, date of encounter, associated diagnosis.	120
S.3.2	Н	Information Access for Supplemental Use	Statement: Support extraction, transformation and linkage of information from structured data and unstructured text in the patient's health record for care management, financial, administrative,				121

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			and public health purposes. Description: Using data standards and technologies that support interoperability, information access functionalities serve primary and secondary record use and reporting with continuous record availability and access that ensure the integrity of (1) the health record, (2) public health, financial and administrative reporting, and (3) the healthcare delivery process.			
S.3.2.1	F	Rules-Driven Clinical Coding Assistance	Statement: Make available all pertinent patient information needed to support coding of diagnoses, procedures and outcomes. Description: The user is assisted in coding information for clinical reporting reasons. For example, a professional	IN.4.1 IN.4.2 IN.4.3 IN.6	The system SHALL provide the ability to access pertinent patient information needed to support coding of diagnosis, procedures and outcomes.	122
			coder may have to code the principal diagnosis in the current, applicable ICD as a basis for hospital funding. All diagnoses and procedures during the episode may be presented to the coder, as well as the applicable ICD hierarchy containing these codes.	IIV.7	The system MAY assist with the coding of diagnoses, procedures and outcomes based on provider specialty, care setting and other information that may be entered into the system during the encounter.	123
S.3.2.2	F	Rules-Driven Financial and Administrative Coding Assistance	Statement: Provide financial and administrative coding assistance based on the structured data and unstructured	S.3.1.3 IN.2.5.1	The system SHALL maintain financial and administrative codes.	124
			text available in the encounter documentation. Description: The user is assisted in coding information for billing or	IN.6	The system SHOULD provide the ability to retrieve data from the electronic health record as required to simplify the coding of financial and administrative documentation.	125
			administrative reasons. For example, in the US Domain, the HIPAA 837 Professional claim requires the date of		The system MAY support rules driven prompts to facilitate the collection of data in the clinical workflow that is required for administrative and financial coding.	126
			the last menstrual cycle for claims involving pregnancy. To support the generation of this transaction, the provider would need to be prompted to		4. The system MAY assist with the coding of required administrative and financial documents based on provider specialty, care setting and other information that may be entered into the system during the encounter.	127
			enter this date when the patient is first determined to be pregnant, then making this information available for the billing process.		The system MAY internally generate administrative and financial coding such as place of service, type of facility, tax rates, etc.	128

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S.3.2.3 F	Integrate Cost/Financial Information	t/Financial Statement: Support interactions with other systems, applications, and modules to enable the use of cost management information required to guide users and workflows.	DC.1.7.1 DC.1.7.2.4 IN.4.3	The system MAY provide the ability to retrieve formularies, preferred providers, and other information, from internal or external sources, that are associated with a patient's health care plan and coverage so that the provider can offer cost effective alternatives to patients.	129	
			Description: The provider is alerted or presented with the most cost-effective services, referrals, devices and etc., to	IN.6	The system MAY provide the ability to retrieve or request information about exemptions on coverage limitations and guidelines.	130
		recommend to the patient. This may be tailored to the patient's health insurance/plan coverage rules. Medications may be presented in order of cost, or the cost of specific interventions		3. The system MAY provide the ability to retrieve and provide expected patient out-of- pocket cost information for medications, diagnostic testing, and procedures, from internal or external sources, that are associated with a patients health care plan and coverage.	131	
			may be presented at the time of ordering.		The system MAY alert the provider of care where formularies, preferred provider and other information indicate the health plan requires an alternative.	132
					 The system SHOULD conform to S.3.3.3 (Service Authorizations) to integrate support of prior authorization processes. 	133
S.3.3	Н	Administrative Transaction Processing	Statement: Support the creation (including using external data sources, if necessary), electronic interchange, and processing of transactions listed below that may be necessary for encounter management during an episode of care. Description: Support the creation (including using external data sources, if necessary), electronic interchange, and processing of transactions listed below that may be necessary for encounter management during an episode of care. The EHR system shall capture the patient health-related information needed for administrative and financial purposes including reimbursement.			134
			Captures the episode and encounter information to pass to administrative or financial processes (e.g. triggers transmissions of charge transactions as by-product of on-line interaction including order entry, order statusing,			

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			result entry, documentation entry, medication administration charting). Automatically retrieves information needed to verify coverage and medical necessity. As a byproduct of care delivery and documentation: captures and presents all patient information needed to support coding. Ideally performs coding based on documentation. Clinically automated revenue cycle examples of reduced denials and error rates in claims. Clinical information needed for billing is available on the date of service. Physician and clinical teams do not perform additional data entry / tasks exclusively to support administrative or financial processes.			
S.3.3.1	F	Enrollment of Patients	Statement: Support interactions with other systems, applications, and modules to facilitate enrollment of uninsured patients into subsidized and unsubsidized health plans, and enrollment of patients who are eligible on the basis of health and/or financial status in social service and other programs, including clinical trials. Description: Expedites determination of health insurance coverage, thereby increasing patient access to care. The provider may be alerted that uninsured patients may be eligible for subsidized health insurance or other health programs	DC.2.2.3 IN.1.6 IN.1.7	The system SHOULD provide the ability to retrieve subsidized and unsubsidized health plan options from internal or external sources to allow for presentation of alternatives for health care coverage to patients.	135

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			because they meet eligibility criteria based on demographics and/or health status. For example: a provider is notified that the uninsured parents of a child enrolled in S-CHIP may now be eligible for a new subsidized health insurance program; a provider of a pregnant patient who has recently immigrated is presented with information about eligibility for subsidy. Links may be provided to online enrollment forms. When enrollment is determined, the health coverage information needed for processing administrative and financial documentation, reports or transactions is captured.		The system MAY provide the ability to retrieve health plan enrollment criteria to match patients health and financial status. 13	36
S.3.3.2	B.2 F Eligibility Verification ar Determination of Coverage		statement: Support interactions with other systems, applications, and modules to enable eligibility verification for health insurance and special programs, including verification of benefits and predetermination of coverage. Description: Retrieves information needed to support verification of coverage at the appropriate juncture in the encounter workflow. Improves patient access to covered care and reduces claim denials. When eligibility is verified, the system would capture eligibility information needed for processing administrative and financial documentation, reports or transactions - updating or flagging any inconsistent	IN.2.3 IN.5.1 IN.5.3 IN.5.4	The system SHOULD provide the ability to input patient health plan eligibility information for date(s) of service.	137
		including verification of benefits and predetermination of coverage. Description: Retrieves information needed to support verification of coverage at the appropriate juncture in the encounter workflow. Improves patient access to covered care and reduces claim denials. When eligibility is verified, the system would capture eligibility information needed for processing administrative and financial documentation, reports or transactions -			The system MAY provide authorized users the ability to input patient health plan coverage dates.	138
					The system MAY provide the ability to input general benefit coverage information for patients.	139
					The system SHOULD provide for the retention of eligibility date(s) of service, coverage dates, general benefits and other benefit coverage documentation for service rendered.	140
					The system MAY provide the ability to transfer electronic eligibility information from internal and external systems.	141
				The system MAY provide the ability to access information received through electronic prescription eligibility checking. 14	42	
				The system MAY provide authorized users the ability to collect and retain patient registration in special programs such as but not limited to: registries and case management.	43	

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			management or immunization registries during the encounter.		The system MAY provide the ability to check for inconsistencies in the information recorded. 144
S.3.3.3	S.3.3.3 F	Service Authorizations	Statement: Support interactions with other systems, applications, and modules to enable the creation of requests,	DC.1.1.3.1 IN.5.4	The system SHOULD provide the ability to input service authorizations relevant to the service provided including the source, dates, and service(s) authorized. 145
		responses and appeals related to service authorization, including prior authorizations, referrals, and precertification. Description: Retrieves information needed to support verification of medical necessity and prior authorization of services at the appropriate juncture in the encounter workflow. Improves timeliness of patient care and reduces claim denials.		The system SHOULD provide the ability to input referrals relevant to the service provided including the source, date and service(s) referred. 146	
			Description: Retrieves information needed to support verification of medical necessity and prior authorization of services at the appropriate juncture in the encounter workflow. Improves timeliness		The system MAY provide the ability to transfer and/or collect electronic, computer readable data on service authorization information, including specific data if mandated by local authority.
					The system MAY provide the ability to transfer and/or collect electronic, computer readable data on service referral information, including specific data if mandated by local authority.
S.3.3.4	F	F Support of Service Requests and Claims		IN.2.5.1 IN.2.5.2	The system SHALL provide the ability to view available, applicable clinical information to support service requests.
					The system SHALL provide the ability to view available, applicable clinical information to support claims.
					The system MAY provide available, applicable clinical information to support service requests in computer readable formats. 151
					The system MAY provide available, applicable clinical information to support claims in computer readable formats. 152
S.3.3.5	F	F Claims and Encounter Reports for Reimbursement Statement: Support interactions with other systems, applications, and modules to enable the creation of claims and encounter reports for reimbursement. Description: Retrieves information needed to support claims and encounter reporting. This reporting occurs at the appropriate juncture in the encounter workflow in a manual or automated	other systems, applications, and modules to enable the creation of claims and encounter reports for reimbursement.		The system SHALL provide the ability to view available, applicable information needed to enable the creation of claims and encounter reports for reimbursement. The system SHALL provide the ability to view available, applicable information needed to enable the creation of claims and encounter reports for reimbursement.
				The system SHALL provide the ability to capture and present available, applicable data as required by local authority for audit and review. 154	

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			fashion. For example this could occur at an initial, interim or final billing. The system may also present the information that is provided for audit and review by local authorities.		The system MAY provide available, applicable data in a computer readable form when needed to enable the creation of claims and encounter reports for reimbursement.	155
S.3.3.6 F	Health Service Reports at the Conclusion of an Episode of Care.	Statement: Support the creation of health service reports at the conclusion of an episode of care. Support the creation of health service reports to authorized health entities, for example public health, such as notifiable condition reports, immunization, cancer registry and	S.2.2 IN.7	The system MAY prompt providers for data needed for end of care reporting during the continuum of care to reduce the need for end of care data collection.	156	
		discharge data that a provider may be required to generate at the conclusion of an episode of care. Description: Effective use of this function means that providers do not perform additional data entry to support health management programs and reporting.		The system SHOULD create service reports at the completion of an episode of care such as but not limited to; discharge summaries, public health reports, etc. using data collected during the encounter.	157	
S.3.4	F	F Manage Practitioner/Patient Relationships	Statement: Identify relationships among providers treating a single patient, and provide the ability to manage patient lists assigned to a particular provider. Description: This function addresses the ability to access and update current information about the relationships between caregivers and the patients. This information should be able to flow seamlessly between the different components of the system, and between the EHR system and other systems. Business rules may be reflected in the presentation of, and the access to this	DC.2.6.3 S.1.3.4 S.2.2	The system SHALL provide the ability to identify all providers by name associated with a specific patient encounter.	158
				IN.2.4	The system SHALL provide the ability to specify the role of each provider associated with a patient such as encounter provider, primary care provider, attending, resident, or consultant.	159
					The system SHALL provide the ability to identify all providers who have been associated with any encounter for a specific patient.	160
			information. The relationship among providers treating a single patient will include any necessary chain of authority/responsibility.		The system SHOULD provide authorized users the ability to add and update information on the relationship of provider to patient.	161

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			Example: In a care setting with multiple providers, where the patient can only see certain kinds of providers (or an individual provider); allow the selection of only the appropriate providers.		5.	The system MAY provide the ability to view patient lists by provider.	162
			Example: The user is presented with a list of people assigned to a given practitioner and may alter the assignment as required - to a group, to another individual or by sharing the assignment.		6.	The system SHALL provide the ability to specify primary or principal provider(s) responsible for the care of a patient within a care setting.	163
S.3.5	Н	Subject to Subject Relationship	Statement: Document relationships between patients and others to facilitate appropriate access to their health record on this basis if appropriate. Description: A user may assign the relationships between patients and others to facilitate access to their health record. Some example may include parent, relatives, a legal guardian, health care surrogate or payer.	S.1.4.1 IN.1.3 IN.1.5 IN.2.2			164
S.3.5.1	F	Related by Genealogy	Statement: Provide information on relationships by genealogy. Description: Relationships by genealogy	DC.1.1.3.1 DC.1.3.3	1.	The system SHALL provide the ability to collect and maintain genealogical relationships.	165
			may include genetic mother, next of kin, or family members. Appropriate consents	DO: 1.5.5	2.	The system SHALL provide the ability to identify persons related by genealogy.	166
			must be acquired prior to the collection of use of this information.			The system SHOULD provide the ability to collect and maintain patient consents required to allow patient records to be viewed for the purposes of a genealogical family member's family medical history.	167
S.3.5.2	F	Related by Insurance	Statement: Support interactions with other systems, applications, and modules to provide information on relationships by insurance (domestic partner, spouse, and guarantor). Description:			The system MAY provide the ability to identify persons related by insurance plan.	168
S.3.5.3	F	Related by Living Situation	Statement: Provide information on relationships by living situation (in same household). Description:		1.	The system MAY provide the ability to identify patients related by living situation.	169

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S.3.5.4	F	Related by Other Means	Statement: Provide information on relationships by other means. Description: Other relationships that may need to be recorded would include but not be limited to surrogate mother, guardian, a person authorized to see health records, health care surrogate, and persons who may be related by epidemiologic exposure.		The system MAY provide the ability to identify patients related by employer and work location for purposes of epidemiological exposure and public health analysis and reporting.	170
					The system SHOULD provide the ability to identify persons with Power of Attorney for Health Care or other persons with the authority to make medical decisions on behalf of the patient.	171
S.3.6	F	Acuity and Severity	Statement: Provide the data necessary to support and manage patient acuity/severity for illness/risk-based adjustment of resource. Description: Research has been done on nurse staffing and patient outcomes; the impact of organizational characteristics on nurse staffing patterns,	S.2.1.2	The system SHOULD provide the ability to collect appropriate existing data to support the patient acuity/severity processes for illness/risk-based adjustment of resources.	172
			patient outcomes, and costs; and the impact of nurses' experience on patient outcomes. The research indicates that nurse staffing has a definite and measurable impact on patient outcomes, medical errors, length of stay, nurse turnover, and patient mortality. Acuity data helps determine what is, indeed, appropriate staffing – as modified by the nurses' level of experience, the organization's characteristics, and the quality of clinical interaction between and among physicians, nurses, and administrators. Also, acuity and severity data is routinely the evidential basis most frequently cited by staff when recommending clinical staffing changes.		The system MAY provide the ability to export appropriate data to support the patient acuity/severity processes for illness/risk-based adjustment of resources.	173
					The system MAY prompt the user to provide key data needed to support acuity/severity processes.	174
S.3.7	Н	Supportive Function Maintenance	Statement: Update EHR supportive content using a manual or automated process. Description:			175

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S.3.7.1	F	Clinical Decision Support System Guidelines Updates	Statement: Facilitate and/or perform updates of clinical decision support system guidelines and associated reference material. Description: Clinical decision support rules may be applied to the system using a manual process. As standards are developed to represent these rules, an automated update will be recommended. Any process to update decision support rules should include the verification of the appropriateness of the rules to the system. This may include but not be limited to authenticity of the source, the currency of the version, and any necessary approvals before updates can take place.	DC.2.6.3 DC.2.7.1 IN.2.2 IN.4.1	The system SHALL provide the ability to update the clinical content or rules utilized to generate clinical decision support reminders and alerts.	176
				IN.4.3 IN.5.1 IN.5.3 IN.5.4	The system SHOULD validate that the most applicable version is utilized for the update, and capture the date of update.	177
				IN.6	The system MAY track and retain the version used when guidelines are provided in a patient encounter.	178
S.3.7.2	F	Patient Education Material Updates	Statement: Receive and validate formatted inbound communications to facilitate and/or perform updating of patient education material. Description: Materials may include information about a diagnosis, recommended diets, associated patient health organizations, or web links to similar educational information. These materials may be provided electronically and may require validation prior to inclusion in the system.	DC.3.2.4	The system MAY provide the ability to capture and update material that may be printed and provided to the patient at the point of care.	179
					The system MAY provide the ability to validate the material prior to update.	180
S.3.7.3	F	Patient Reminder Information Updates		DC.2.2.4 DC.2.3.2 DC.2.5.1	The system MAY provide the ability to add patient reminders for patients based on the recommendations of public health authorities or disease specific associations.	181
				DC.2.5.2 DC.3.2.3 S.1.4.1	The system MAY provide the ability to automatically associate patient reminders with patients meeting specific phenotypic criteria such as age, gender, diagnosis, etc.	182

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		Public Health Related Updates	of generating patient reminders based on the recommendations of these organizations. Patient reminders could be provided to patients by a number of means including phone calls, or mail. A	IN.2.2 IN.5.2 IN.6	reminders, manually process, and record associated telephone contacts.	183	
			record of such reminders may become part of a patient's record. Examples of reminders could include a recommended immunization, prophylactic guidelines for MVP, patient self-testing for disease, etc.		4.	The system MAY provide the ability to automatically generate patient reminders for mailing to patients.	184
S.3.7.4	F		Statement: Receive and validate formatted inbound communications to facilitate updating of public health reporting guidelines. Description: Information and reporting requirements from outside groups, such as public health organizations, may be	IN.4.3 IN.5.2	1.	The system MAY provide the ability to capture and update public health reporting guidelines.	185
			made available to patient care providers. Examples may include requirements to report on new disease types, or changes to reporting guidelines. The information in these public health updates may be applied to the system so that appropriate data can be collected and reported to comply with requirements.		2.	The system MAY provide the ability to validate the material prior to update.	186